

Comparing the Szondi Test results of Hungarian and Portuguese community samples

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Abstract

This study makes a comparison between two nations' Szondi test profiles. The aim of this study was to compare the Szondi Test results of a Hungarian community sample (n=126) with those of a Portuguese community sample (n = 175). Both samples were heterogeneous convenience samples. Results show a general agreement (with some minor differences) in 5 factors: h, e, hy, k, and d. There are very clear differences in s and p factors, where s- and p+ are the most frequent results in the Hungarian sample vs. s+ and p0 or p- in the Portuguese sample. Differences in the m factor are significant but less important: m+ is the most frequent result in both samples but it attains a relatively higher frequency in the Portuguese sample, where it is also more frequently loaded (+!!). The differences in the samples' educational level contribute to the differences in p factor but do not explain all the observed differences. Age and gender seem to have only a slight influence on the results.

Keywords: Szondi projective test, comparison of a Portuguese and Hungarian sample

Introduction

The Szondi test is a projective technique. The test material consists of 48 photos representing the faces of mental patients. The subject is asked to tell which photos he/her likes the most and which photos he/her dislikes the most (Szondi, 1947; Deri, 1949). The readers of the journal can read about Lipót (Leopold) Szondi's fate-analytical theory in this edition by Enikő Gyöngyösiné Kiss and about the Szondi personality test in the previous edition by Rita Hargitai (2007). Szondi applied his test to a large sample of 1000 adults from the Hungarian general population. The most frequent responses in this sample defined a very similar profile to what Szondi had previously described as the profile of the "man in the street" (*Alltags-mensch*). One important feature of this profile is the disciplined ego (Sch --). In the first edition of his *Experimentelle Triebdiagnostik* (1947) Szondi stressed that this type of ego was found most frequently in manual workers from lower social classes and that it was rare among "intellectuals". Reference to social classes was omitted in the 2nd and 3rd editions of this book.

Soto-Yarritu (1955) studied a sample of 750 adults from the Spanish (Navarre) general population. Overall, as can be seen in Table 4, his results were consistent with those obtained by Szondi. However, there were also some clear differences, namely in the C vector results.

In the Navarrese the tendency to cling to the object in a more or less rigid way (C-+) seem to be much more frequent than in Hungarians. Szondi (1947) attributed this difference to cultural characteristics, namely to the strong attachment of the Navarrese to the Catholic Church.

These kind of studies with large samples from the general population have not been repeated since. However, other studies with smaller samples, namely A. Pochet's study (data published by Satassart, 1999) with a sample of 200 Italians, yielded results in the C vector similar to those obtained by Soto-Yarritu. In the other vectors, results of these modern studies tend to confirm Szondi and Soto-Yarritu's results but they also show some differences, namely in the p factor, where the p+ tends to be much more frequent than p-, exactly the opposite of what was found by Szondi and Soto-Yarritu. This implies that the "disciplined" ego becomes relatively rare (7%). Gonçalves (1999) suggested that this difference could be related to the subjects' social level. Unfortunately, data on the subjects' educational or social level are generally not given on all these studies with the Szondi test. On the other hand, as we have no modern studies with the Hungarian population, we do not know if Szondi's results come from stable cultural characteristics or whether they were influenced by historic circumstances or by the specific social characteristics of the initial sample studied by Szondi.

The aim of this study is to compare the results of a Hungarian and Portuguese community sample taking into account the possible effect of differences in age, educational level, work status and sex between the two samples.

Initial data of this comparison were presented by Gonçalves and Gyöngyösiné Kiss (2008), and Káplár, Gyöngyösiné Kiss, and Gonçalves (2008).

Method

1. Participants

Both the Hungarian (n = 126) and the Portuguese (n = 176) samples were heterogeneous convenience samples collected in non-clinical settings. Participants who volunteered aged between 17 and 65 years were accepted. Table 1 presents the main characteristics of the samples.

Table 1: Characteristics of the samples

		Hungarian (n = 126)	Portuguese (n = 176)
Age	(M ± SD)	27.4(± 8.9) years	30.4(± 10.3) years
	[Max-min]	[17- 60 years]	[17 - 63 years]
Sex	men	37.3%	57.4%
	women	62.7%	42.6 %
Educational level	<12 years	1.6 %	29.6 %
	≥12 years	98.5 %	49.4 %
Work status	univ. student	56.4 %	21.0 %
	worker	43.6 %	79.0%

The age mean of the Hungarian sample is significantly lower than in the Portuguese sample (t-test = -2.65, p = .008). The percentage of women in the Hungarian sample is higher than in the Portuguese sample (chi-square = 11.85, p = .0006). There were also very clear differences

in the educational level: almost all the subjects in the Hungarian sample had at least 12 years of schooling. In the Portuguese sample almost 30% of the subjects had less than 12 years of schooling. Finally, the percentage of university students was higher in the Hungarian sample.

2. Measures

In a clinical setting, the Szondi test normally includes 10 different profiles, obtained on 10 different days. However, for research purposes, a shorter, 5-profile form has often been used. All the subjects in the Hungarian sample had a 10-profile Szondi test. Most of the subjects in the Portuguese sample had only a 5-profile test (in which case results were extrapolated to 10 profiles). The total number of profiles collected was 1156 in the Hungarian sample and 1017 in the Portuguese sample. Data on the subjects' sex, age, profession and education level were also obtained.

Results

The frequency of the four possible responses (0, +, -, \pm) are presented for each factor and for both samples. Results presented in Table 2 are mean frequencies in %. Results for + and - responses include both loaded and unloaded responses. Results for loaded responses are also presented separately as they have a special clinical meaning and in some factors they are very frequent. Figure 1 presents the results in graph form.

Table 2: Frequencies (in %) of factorial responses in both samples.

	Hung N=126	Port N=175	p – level*		Hung N=126	Port N=175	p – level*
h 0	28.6	24.6	.176	k 0	16.3	17.8	.917
h +	38.5	44.1	.276	k +	9.6	10.0	.086
h -	20.8	21.0	.221	k -	51.0	53.4	.555
h \pm	12.1	10.3	.130	k \pm	23.1	18.8	.033
h +!	4.2	13.0	.005	k +!	0.0	.4	.088
h - !	2.3	4.1	.723	k - !	5.6	6.8	.965
s 0	15.9	14.9	.580	p 0	28.5	34.4	.105
s +	22.8	45.7	.000	p +	61.3	27.1	.000
s -	38.1	21.7	.000	p -	6.6	31.9	.000
s \pm	23.2	17.7	.132	p \pm	3.6	6.6	.114
s +!	1.7	6.6	.014	p +!	14.9	4.3	.000
s - !	8.8	5.9	.004	p - !	.1	4.6	.000
e 0	31.7	34.1	.273	d 0	41.1	34.3	.023
e +	25.2	27.8	.278	d +	21.7	17.5	.003
e -	30.6	26.8	.385	d -	31.7	42.2	.011
e \pm	12.5	11.3	.469	d \pm	5.5	6.1	.293
e +!	1.1	1.2	.522	d +!	.9	2.5	.676
e - !	1.3	1.7	.652	d - !	2.5	5.0	.423
hy 0	10.7	16.9	.168	m 0	12.7	9.0	.003
hy +	4.1	3.9	.141	m +	66.4	77.5	.001
hy -	69.7	70.7	.576	m -	9.6	5.3	.002
hy \pm	15.5	8.5	.007	m \pm	11.4	8.3	.005
hy +!	.0	.2	.229	m +!	24.0	37.8	.001
hy - !	13.0	17.5	.737	m - !	.3	.6	.975

*Mann-Whitney U test

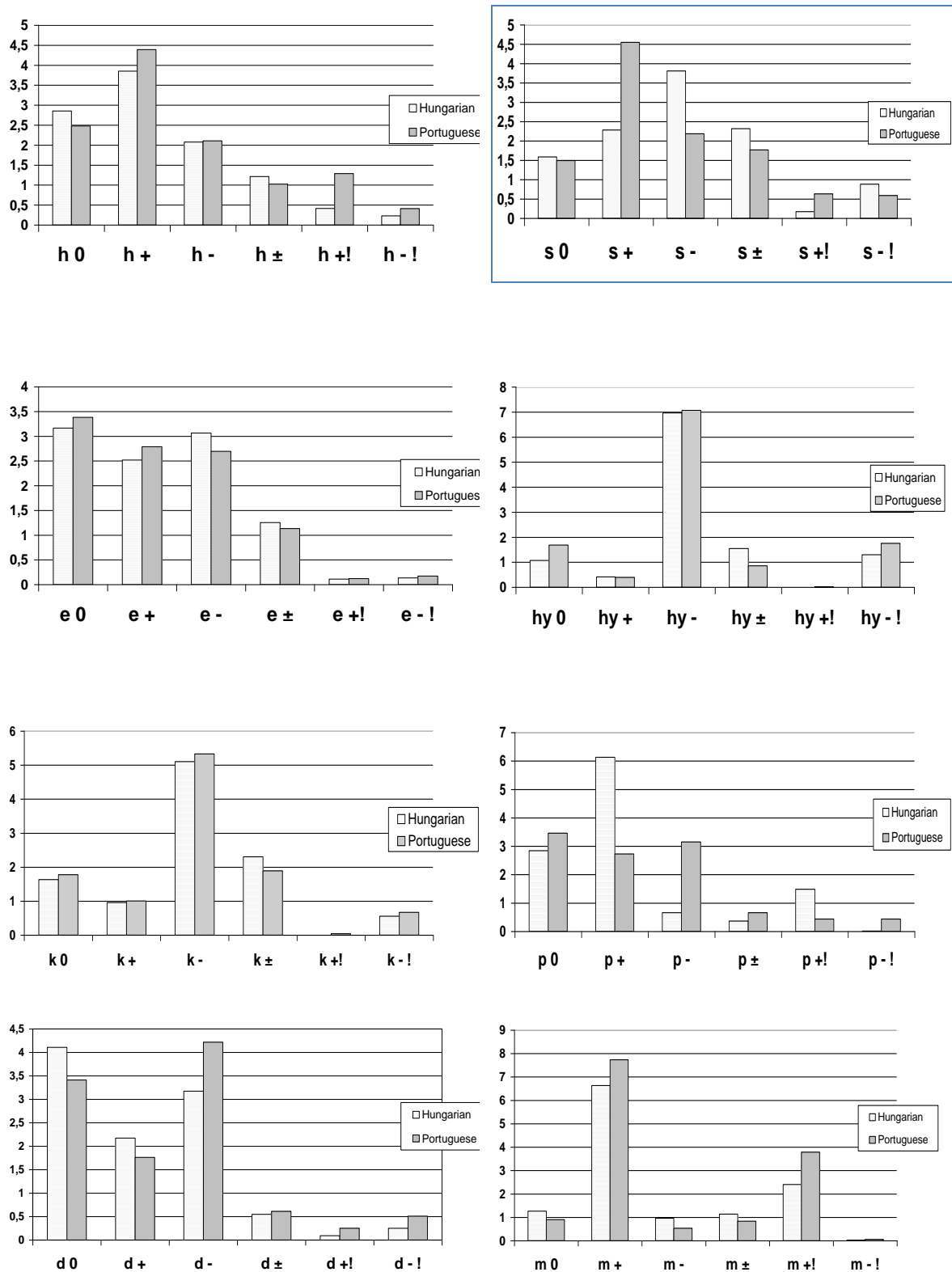


Figure 1: Frequency of different responses in each factor

In order to establish whether the observed differences could be attributed to differences in sex, education level or age between the Hungarian and the Portuguese samples, several separate log-linear regression analyses were conducted. The independent variables were sex, education (less than 12 years vs. 12 or more years of schooling), work status (student vs. worker), age

and nationality (Hungarian vs. Portuguese). The dependent variables were all the factorial variables presenting a statistically significant difference when the two samples were compared. These variables were dichotomized according to the median value (observed value under or equal vs. above the median value). For most of the variables the median value (MD) was zero. The frequency of k_{\pm} had a MD=1, the frequencies of s_{+} , s_{-} and $m_{+!}$ had a MD=2, and the frequencies of d_0 and d_{-} had a MD=3. Other studied variables with a median value above 0 were: p_{+} (MD=3.5) and m_{+} (MD=8.5). Data were analyzed by the statistical software SPSS 16.0 (SPSSInc., Chicago, IL., USA). Results are presented in Table 3.

Table 3: Logistic regression analysis: odds ratio for independent variables with a significant effect (Wald statistic).

Independent variables					Dependent variable
Portuguese /Hungarian	Age	Sex	Student/ worker	Education high/low	
-	-	-	-	.28***	h +!
4.22***	-	-	2.18*	-	s +
.21***	-	-	.41*	-	s -
.37*	-	-	-	-	s +!
3.64***	-	-	-	-	s -!
.31***	-	-	-	.47*	hy ±
-	-	-	-	-	k ±
.24***	-	-	-	3.44**	p +
4.38***	-	-	-	.20***	p -
.34***	-	-	-	4.11*	p +!
26.03**	-	-	-	.23**	p -!
.61*	-	-	-	.43*	d 0
.30***	-	-	-	-	d +
-	-	-	2.49*	-	d -
.29***	-	-	-	.35**	m 0
1.87*	-	-	-	-	m +
.34**	1.04*	-	-	-	m -
.46**	-	-	-	-	m ±
2.44***	-	-	-	-	m +!

* $p < .05$ ** $p < .01$ *** $p < .001$

To compare the structure of our two samples we used a model of Agglomerative Hierarchical Cluster Analysis (AHCA) using the Chi-squared measure and the complete linkage clustering for each one, considering the 48 variables (Gordon, 1981). The software used to compare the two AHCA results was implemented in S-Plus by Lorga (2004). To compare the obtained dendrograms (not presented here) we used the Spearman correlation coefficient between the ultrametric similarity matrices. The obtained value ($r_s = .272$) shows a low but highly significant ($p < .001$) correlation between the hierarchy of partitions obtained with the 48 variables.

The similarity between the two samples may be seen when we compare the classes of variables that are formed at the best level, which is the penultimate where two classes are formed in each sample. Table 4 compares the obtained variable clusters in the two samples at this level.

Table 4: Comparison of clusters at the penultimate level in both samples

		Hungarian sample	
		Cluster 1	Cluster 2
Portuguese sample	Cluster 1	h- h± h-! s+! s-! e± e+! e-! hy+ k0 k+ k+! k-! p+! p± d± d+! d-! m0 m- m± m-!	h0 s0 s- s± e0 hy± hy+! k± p+ d+
	Cluster 2	h+! hy0 p- p-!	h+ s+ e+ e- hy- hy-! p0 k- d0 d- m+ m+!

To compare our results with those obtained by Szondi, Soto-Yarritu and Pochet, we used the frequencies of the vectorial constellations (pairs of responses in the two factors in each vector) and not the results for each separate factor. The three most frequent constellations in each vector are presented in Table 5. The synthetic global profile based on vectorial constellations includes the most frequent constellation in each vector and all constellations whose frequency is higher than half the frequency of the most frequent constellation and above 10%. Constellations printed on a grey background are not to be included in the profile.

Table 5: The most frequent vectorial constellations in the general population

	S	%	P	%	Sch	%	C	%				
Szondi (n=1000)	+	+	26	+	-	23	-	-	32	0	+	18
	+	0	18	0	-	16	-	+	9	+	-	14
	+	-	13	-	-	8	0	-*	8	-	+*	10
Soto-Yarritu (n=750)	+	+	36	+	-	28	-	-	37	0	+	27
	+	0	14	0	-	21	0	-	14	-	+	27
	+	-	13	-	-	14	-	0	12	+	+	10
Pochet (n=200)	+	-	30	+	-	23	-	+	27	0	+	25
	+	0	12	0	-	17	-	0	10	-	+	13
	+	±*	8	-	-	17	0	-	8	0	±	12
Hungarian (n=126)	+	-	14	0	-	22	-	+	32	0	+	28
	+	0	12	-	-	20	-	0	15	-	+	23
	+	±	11	+	-	20	0	-	8	+	+	10
Portuguese (n=175)	+	+	22	0	-	26	-	0	19	-	+	37
	0	+	11	+	-	21	-	-	17	0	+	27
	-	+	8	-	-	16	-	+	14	+	+	10

*Other constellations have the same frequency.

Discussion

Results show a general consistency (with some minor differences) in 5 factors: h, e, hy, k and d. There are, on the contrary, very clear differences between the two samples in 3 factors: s, p and m. We will briefly comment on the results in each factor.

In the **h factor** there seems to be a general consistency. The two most common responses are the same in both samples. Loaded h+ is significantly more frequent in the Portuguese sample. However, the logistic regression analysis suggests that this difference results from differences in the educational level between the two samples.

In the **s factor** there seems to be a clear contrast between the two samples: s + is significantly more frequent in the Portuguese sample and s - is significantly more frequent in the Hungarian sample. The differences are also statistically significant when we consider only the loaded responses (s+! and s-!). Logistic regression analysis shows that s+ tends to be more frequent and s- less frequent in students, so the fact that there are more students in the Hungarian sample probably tends to attenuate the observed difference.

In the **e factor** there are no statistically significant differences between the two samples.

In the **hy factor** there seems to be a general consistency. Minus hy is the most common response in both samples. However, hy ± is significantly more frequent in the Hungarian sample. Logistic regression analysis shows that this response tends to be less frequent in subjects with a higher education level, so the difference in education level between the two samples probably tends to attenuate the observed difference.

In the **k factor** there seems to be a general consistency, and results are similar to those obtained in the hy factor. Minus k is the most common response in both samples, but k ± is more frequent in the Hungarian sample. However, the statistical significance of the observed difference in the frequency of k ± is not as high as the correspondent value for hy ±.

In the **p factor** there seems to be a very clear contrast between the two samples, since p + is significantly more frequent in the Hungarian sample and the opposite response, p -, is significantly more frequent in the Portuguese sample. The differences are also statistically significant when we consider only the loaded responses (p+! and p-!). Logistic regression analysis confirms that these differences are partially due to the differences in education level. As far as p - is concerned, the effect of educational level seems to be as important as nationality. However, even when we take into account the effect of educational level, there is still a statistically significant effect of nationality.

In the **d factor**, there seems to be a general consistency. The two most common responses (d- and d0) are the same in both samples (although not in the same order). On the other hand d0 and d+ are significantly more frequent in the Hungarian sample and d- is significantly more frequent in the Portuguese sample. Logistic regression analysis shows that d0 tends to be less frequent in subjects with a higher education level and d- tends to be more frequent in students, so the difference in education level between the two samples and the fact that there are more students in the Hungarian sample, both probably tend to attenuate the observed difference.

In the **m factor**, there seems to be a general consistency. The two most common responses (m + and m 0) are the same in both samples. However, there are also several significant differences: m + and m + ! are significantly more frequent in the Portuguese sample, while m 0, m - and m ± are significantly more frequent in the Hungarian sample.

The comparative analysis of the global profiles from both samples suggests that Hungarians are more passive (s-, s-!) and idealistic (p+). The Portuguese seem to be more active or aggressive (s+, s+!), yearning for a participative link (p-) and in fear of losing their attachment objects (m+!).

The cluster analysis performed on both samples shows some interesting similarities. We will focus on the variables that are classed in the same cluster in both samples (Table 4). In Cluster 1 we find signs of problematic or immature contact (m-, m-!, m±, m0) related to loaded reactions in almost all the other factors, suggesting the danger of imbalanced drive dynamics. Some of these reactions (m0, m-, m±, s-!) are significantly more frequent in the Hungarian sample but we cannot say that they characterize the global profile of this same sample. In Cluster 2 we find almost all the reactions that can be included in what we could call a relatively stable neurotic profile with some attachment anxiety which is, in fact, the global profile of the Portuguese sample (see Table 5).

The fact that these variables are grouped in the same way in both samples suggests that they can also be interpreted in the same way in both samples. Interpretation can be more complex when the reactions are grouped in a different way. Such is the case, with the p+ and p- reactions. In the Portuguese sample the p+ reaction is included in Cluster 1, suggesting a psychically imbalanced context, while in the Hungarian sample it is included in Cluster 2. The opposite can be observed as far as reaction p- is concerned. In these cases a more detailed analysis of the global profiles including these reactions would be necessary.

The vectorial profiles (Table 5) confirm the above mentioned differences at the factorial level and allow for a quick comparison with results from previous studies using community samples.

In the **S and Sch vectors**, there are clear differences between the Hungarian and the Portuguese samples, resulting from the above mentioned factorial differences in the s and p factors. The results of the Portuguese sample are closer to those obtained by Szondi or Soto-Yarritu. The results of the Hungarian sample are very similar to those obtained by Pochet with an Italian sample from the region of Padova.

In the **C vector**, both the Portuguese and the Hungarian sample results are similar to those obtained by Soto-Yarritu and different from Szondi's initial results.

In the **P vector** there are no major differences between all the compared community samples.

There is no clear explanation for these results. Similarities between the Portuguese sample and the Spanish sample may result from shared cultural features. Northern Italy and Hungary are not very far away and both regions may also share some cultural features. However, there is no explanation for the fact that the results from the Portuguese sample in the S and Sch vectors seem to be closer to those obtained by Szondi. As far as the Sch vector is concerned, this similarity could result from the fact that the Portuguese sample has more subjects with a low educational level than the Hungarian sample.

One interesting issue for further research would be to find if there are differences related to educational and social level among the Hungarian population as have been found among the Portuguese population.

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